

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

ELMAGIN CAPITAL, LLC

v.

**CHAO CHEN, KARL PETTY, ENTERGRID:
LLC and ENTERGRID FUND I LLC**

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CIVIL ACTION

NO. 20-2576

MEMORANDUM OPINION

Savage, J.

August 17, 2021

In this action for misappropriation of trade secrets and breach of contract, plaintiff Elmagin Capital, LLC claims that defendant Chao Chen, one of its founders and former employee, used its algorithmic trading strategies in wholesale electricity markets to develop and use similar strategies at his new trading company, Entergrid LLC and Entergrid Fund I LLC (collectively, “Entergrid”). Elmagin also contends that Chen and defendant Karl Petty, its former consultant, breached their non-disclosure agreements, disclosing its confidential trade secret information. The defendants argue that Elmagin’s trading strategies are not protectable trade secrets and were not misappropriated. They contend that the agreements are unenforceable. They deny disclosing Elmagin’s confidential information.

The parties have moved for summary judgment. There are fact issues concerning whether Elmagin’s trading strategies constitute protectable trade secrets and whether the defendants misappropriated them in developing their own trading strategies. We conclude that the defendants’ non-disclosure agreements are valid and enforceable, but fact issues remain as to whether they were breached. Therefore, we shall deny the cross-motions for summary judgment.

Factual Background

In 2014, Richard Gates, Kevin Gates, and Chao Chen founded Elmagin Capital, LLC.¹ Elmagin was established to trade in financial transmission rights (“FTRs”)² in wholesale electricity markets.³ In 2020, Elmagin generated approximately three million dollars in revenue on an accrual basis.⁴

Elmagin uses computer algorithms to predict variable prices in order to calculate advantageous bids in the highly volatile and competitive electricity markets.⁵ Algorithms are essentially a precise set of instructions to a computer to accomplish a result.⁶ Algorithms are often expressed in words, and those words are translated into code, also known as a program, to implement the algorithm.⁷

Utilizing his educational and professional background in electricity, programming, network design, and algorithmic trading, Chen developed trading strategies for Elmagin.⁸

¹ Pl.’s Resp. to Defs.’ Mot. for Summ. J. Exh. EE at 70:11-24, 106:9-14 (ECF No. 72) (“K. Gates Deposition Transcript”); Memo. in Supp. of Pl.’s Mot. for Summ. J. Exh. B at 24:3-24:8 (ECF No. 59) (“Chen Deposition Transcript”).

² FTRs are financial instruments entitling the holder to receive a share of the charges collected when the transmission grid is congested between the electricity delivery and receipt points specified in the FTR. Market participants submit bids for FTRs with certain delivery and receipt points in auctions. FTRs are acquired when bids are cleared in the auction.

³ K. Gates Dep. Tr. at 78:20-79:5, 112:4-19; Pl.’s Resp. Exh. KKK at 53:4-7, 57:25-58:4 (“R. Gates Deposition Transcript”); Pl.’s Resp. Exh. NN; Memo. in Supp. of Defs.’ Mot. for Summ. J. Exh. 11 at ¶ A (ECF No. 60) (“Consulting Agreement”).

⁴ K. Gates Dep. Tr. at 132:6-133:20.

⁵ Pl.’s Resp. Exh. YY at 14:1-6, 17:5-25, 29:10-30:6, 34:12-14, 34:24-35:14, 36:15-16 (“Yuros Deposition Transcript”); Defs.’ Resp. to Pl.’s Mot. for Summ. J. Exh. 49 at 66-67 (ECF No. 70); Memo. in Supp. of Pl.’s Mot. for Summ. J. Exh. P71 at ¶¶ 51, 63 (“Zarcu Expert Report”).

⁶ Pl.’s Resp. Exh. TT at 3 (“C++ Textbook Excerpt”); Pl.’s Resp. Exh. VV at 18-19.

⁷ C++ Textbook Excerpt at 3; Pl.’s Resp. Exh. VV at 18-19.

⁸ Decl. of Chao Chen in Supp. of Defs.’ Mot. for Summ. J. at ¶¶ 2, 4 (“Chen Summary Judgment Declaration”).

During his tenure at Elmagin, he developed or participated in developing the three trading strategies at issue in this case: “Breck,” “Chloe,” and “Faber.”⁹

While at Elmagin, Chen engaged defendant Karl Petty as a consultant to provide historical data analysis services.¹⁰ The contemplated project involved creating a software tool to analyze the profitability of public FTR bids based on public data.¹¹ Before doing any work for Elmagin, Petty signed a Consulting Agreement that prohibited him from using, exploiting, or disclosing Elmagin’s “confidential information.”¹²

In 2016, Chen informed the Gates brothers that he wished to leave Elmagin.¹³ He sold his 20% membership interest to the Gates brothers and remained with Elmagin through the end of 2017.¹⁴ He signed a Membership Interest Agreement (“MIA”) selling his interest, effective January 1, 2018.¹⁵ Under the MIA, Chen was to be paid as an 8% owner of Elmagin in 2018 and a 6% owner in 2019 and 2020.¹⁶ To date, Chen has received \$15,000 for his ownership stake in Elmagin.¹⁷ He also signed a Non-Disclosure

⁹ Chen Dep. Tr. at 82:10-15; Chen Summ. J. Decl. at ¶ 5; Decl. of Chao Chen in Supp. of Defs.’ Resp. to Pl.’s Mot. for Summ. J. at ¶¶ 8, 10 (ECF No. 73) (“Chen Response Declaration”); Yuros Dep. Tr. at 37:23-38:2, 114:20-24; Pl.’s Resp. Exh. AAA; Pl.’s Resp. Exh. ZZ. The parties focus their arguments on Breck and Faber. We assume Chloe is no longer in play.

¹⁰ Memo. in Supp. of Pl.’s Mot. for Summ. J. at 42:18-21, 121:8-19, 214:13-215:7 (“Petty Deposition Transcript”); Consulting Agreement at ¶¶ C, 2.

¹¹ Chen Dep. Tr. at 187:15-188:7.

¹² Consulting Agreement at ¶ 5(b).

¹³ Defs.’ Resp. Exh. 12.

¹⁴ Defs.’ Resp. Exhs. 12, 13; Chen Resp. Decl. at ¶ 27.

¹⁵ Memo. in Supp. of Defs.’ Mot. for Summ. J. Exh. 10 (“MIA”); K. Gates Dep. at 107:12-16.

¹⁶ Chen Resp. Decl. at ¶ 27.

¹⁷ *Id.* at ¶ 29.

and Non-Competition Agreement (“NDNC”) that prohibited him from engaging in a competing business for one year and from ever using, exploiting, or disclosing Elmagin’s confidential information, including its trading strategies.¹⁸ He left Elmagin on December 31, 2017.¹⁹

Chen spent the next year investing in real estate and small businesses and developing trading strategies for digital currencies.²⁰ On January 10, 2019, he formed Entergrid, LLC and Entergrid Fund I, LLC for the purpose of trading in FTRs in wholesale electricity markets.²¹ He used algorithms to develop FTR trading strategies and wrote computer codes to implement the strategies.²² These strategies included “Hydra” and “Gryphon.”²³

Petty joined Entergrid in spring 2019.²⁴ Chen recruited other consultants and employees, none of whom had ever worked for Elmagin.²⁵ Entergrid began trading in wholesale electricity markets around May or June 2019.²⁶

¹⁸ Memo. in Supp. of Defs.’ Mot. for Summ. J. Exh. 9 at ¶¶ 2(b), 4(a) (“NDNC”).

¹⁹ Chen Dep. Tr. at 25:20-26:3; Chen Summ. J. Decl. ¶ 13.

²⁰ Chen Dep. Tr. at 28:1-10, 28:17-20, 31:16-32:6, 197:13-198:4; Chen Resp. Decl. at ¶ 22.

²¹ Chen Dep. Tr. 34:20-35:1; Petty Dep. Tr. at 59:7-60:4; Memo. in Supp. of Pl.’s Mot. for Summ. J. Exh. E at 56:6-57:13, 70:6-17 (“Petty Rule 30(b)(6) Deposition Transcript”). Entergrid, LLC conducts its trading activity in wholesale electricity markets through Entergrid Fund I, LLC. Petty R. 30(b)(6) Dep. Tr. at 57:14-58:1.

²² Memo. in Supp. of Pl.’s Mot. for Summ. J. Exh. H at 22:11-24:16, 86:20-87:3, 113:9-114:12, 157:1-9, 185:6-24, 197:21-198:23 (“Chen Rule 30(b)(6) Deposition Transcript”).

²³ *Id.* at 22:11-24:16, 113:9-114:12.

²⁴ Petty Dep. Tr. at 56:23-57:6.

²⁵ Chen Summ. J. Decl. at ¶ 22.

²⁶ Petty R. 30(b)(6) Dep. Tr. at 196:21-197:2.

Elmagin filed suit on June 1, 2020, claiming the defendants misappropriated Elmagin's trade secrets and breached their contractual obligations by using Elmagin's trading strategies in developing their own algorithms.²⁷ Both sides have moved for summary judgment.²⁸

Legal Standard

Summary judgment is appropriate "if the movant shows there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." FED. R. CIV. P. 56(a). Judgment will be entered against a party who fails to sufficiently establish any element essential to that party's case and who bears the ultimate burden of proof at trial. See *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). In examining the motion, we must draw all reasonable inferences in the nonmovant's favor. *InterVest, Inc. v. Bloomberg, L.P.*, 340 F.3d 144, 159-60 (3d Cir. 2003).

Disagreements over what inferences may be drawn from the facts, even undisputed ones, preclude summary judgment. *Ideal Dairy Farms, Inc. v. John Labatt, Ltd.*, 90 F.3d 737, 744 (3d Cir. 1996) (citation omitted). Credibility determinations, the drawing of legitimate inferences from facts, and the weighing of evidence are matters left to the jury. *Anderson v. Liberty Lobby*, 477 U.S. 242, 255 (1986).

A party moving for summary judgment may use depositions and affidavits or declarations to show a fact is not genuinely disputed, and a party opposing the motion may also rely on them to demonstrate that a fact is disputed. See FED. R. CIV. P. 56(c)(1)(A) ("A party asserting that a fact cannot be or is genuinely disputed must support

²⁷ Pl.'s Compl. (ECF No. 1).

²⁸ Pl.'s Mot. for Summ. J. (ECF No. 58); Defs.' Mot. for Summ. J. (ECF No. 57).

the assertion by . . . citing to particular parts of materials in the record, including depositions . . . affidavits or declarations.”). Because depositions provide all parties an opportunity to probe the witness, they are preferred to declarations and affidavits that are generally prepared by attorneys rather than the declarant or affiant. See *In re CitX Corp.*, 448 F.3d 672, 680 (3d Cir. 2006) (citing 10A Charles Alan Wright et al., *Fed. Prac. & Proc.* § 2722, at 373, 379 (3d ed. 1998)). The affiant must set forth specific facts that reveal a genuine issue of material fact. *Lujan v. Nat’l Wildlife Fed’n*, 497 U.S. 871, 888 (1990) (collecting cases). Because they are not subject to cross-examination, affidavits are scrutinized carefully. *In re CitX Corp.*, 448 F.3d at 680 (citing 10A Charles Alan Wright et al., *Fed. Prac. & Proc.* § 2722, at 373, 379).

Discussion

Misappropriation of Trade Secrets

Elmagin asserts claims for misappropriation of trade secrets under both the Defend Trade Secret Act (“DTSA”), 18 U.S.C. § 1836 *et seq.*, and the Pennsylvania Uniform Trade Secret Act (“PUTSA”), 12 Pa. C.S. § 5301 *et seq.* To prevail on a claim for misappropriation of trade secrets under DTSA and PUTSA, a plaintiff must first establish the existence of a trade secret. 18 U.S.C. §§ 1836(b)(1), 1839(3), (5); 12 Pa. C.S. § 5302. See also *Par Pharm., Inc. v. QuVa Pharma, Inc.*, 764 F. App’x 273, 278 (3d Cir. 2019) (applying the identical New Jersey Trade Secrets Act); *Fishkin v. Susquehanna Partners, G.P.*, 563 F. Supp. 2d 547, 581 (E.D. Pa. 2008), *aff’d in part*, 340 F. App’x 110 (3d Cir. 2009).

DTSA defines a “trade secret” as “all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans,

compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes.” 18 U.S.C. § 1839(3). The PUTSA similarly defines a trade secret as “[i]nformation, including a formula, drawing, pattern, compilation including a customer list, program, device, method, technique or process.” 12 Pa. C.S. § 5302.

The defendants argue that Elmagin has not sufficiently identified its alleged trade secrets as a matter of law.²⁹ They claim that Elmagin only relies on vague, high-level summaries of its strategies, without examining or referencing the actual source code.³⁰ They also dispute the accuracy and completeness of Elmagin’s high-level summaries of its strategies.³¹

To establish the existence of a trade secret, a plaintiff must describe it with a “reasonable degree of precision and specificity . . . such that a reasonable jury could find that plaintiff established each statutory element of a trade secret.” *Synogy Inc. v. ZS Assocs., Inc.*, No. 07-3536, 2015 WL 899408, at *6 (E.D. Pa. Mar. 3, 2015) (quoting *Dow Chem. Canada Inc. v. HRD Corp.*, 909 F. Supp. 2d 340, 346 (D. Del. 2012)). “This identification must be particular enough as to separate the trade secret from matters of general knowledge in the trade . . . or special knowledge of persons skilled in the trade.” *Id.* See also *Oakwood Lab’ys LLC v. Thanoo*, 999 F.3d 892, 906 (3d Cir. 2021) (same); *Givaudan Fragrances Corp. v. Krivda*, 639 F. App’x 840, 845 (3d Cir. 2016) (“It is patently obvious that trade secrets must be identified with enough specificity to put a defendant

²⁹ Memo. in Supp. of Defs.’ Mot. for Summ. J. at 19-21, 23-24 (ECF No. 62).

³⁰ *Id.* at 27-29; Defs.’ Resp. to Pl.’s Mot. for Summ. J. at 33-35; Defs.’ Reply at 1 (ECF No. 84).

³¹ Defs.’ Resp. at 38-39.

on notice of what is actually alleged to have been stolen.”) (citations omitted). Courts may grant summary judgment on trade secret misappropriation claims when plaintiffs do not sufficiently identify their purported trade secrets. See *Givaudan*, 639 F. App’x at 845 (“Givaudan failed to provide enough specific information about many of the formulas it believed had been misappropriated. Summary judgment on those claims was proper on this basis alone.”).

Although Elmagin provides only written summaries of Breck and Faber in its summary judgment motion, its descriptions, together with voluminous exhibits, including emails, notes, and powerpoint presentations discussing the strategies and how they are constructed, sufficiently identify its strategies. It is not necessary to provide the actual lines of computer code implementing the algorithms. Algorithms can be expressed in a variety of ways, such as in prose, code, or a combination of both.³² The code is simply the translation of the written instructions into a language the computer can understand. Elmagin’s descriptions provide a reasonable degree of precision and specificity permitting us to consider whether its trading strategies qualify as trade secrets under DTSA and PUTSA. See *Synogy*, 2015 WL 899408, at *8.³³

Having concluded that Elmagin has sufficiently identified its trading strategies, we consider whether it has established as a matter of law that its strategies are protectable trade secrets. Although DTSA and PUTSA use different wording to define a trade secret,

³² C++ Textbook Excerpt at 3.

³³ The accuracy of Elmagin’s descriptions is a jury question. For example, the defendants point to evidence that Breck only utilizes “minimum spanning trees” as a part of its algorithms, while Elmagin points to evidence that Breck utilizes “shift factors” as well as minimum spanning trees. Chen Dep. Tr. at 124:15-125:7, 165:7-167:3; Chen Summ. J. Decl. at ¶ 17; Chen Resp. Decl. at ¶ 9. The jury must consider the competing evidence.

they essentially protect the same type of information. Both define a trade secret as information that: (a) the owner has taken reasonable means to keep secret; (b) derives independent economic value, actual or potential, from being kept secret; (c) is not readily ascertainable by proper means; and (d) others who cannot readily access it would obtain economic value from its disclosure or use. 18 U.S.C. § 1839(3); 12 Pa. C.S. § 5302.

Elmagin claims that its trading strategies are protectable trade secrets. It contends that Breck and Faber consist of unique combinations of algorithmic elements that are not publicly known or readily ascertainable through reverse engineering.³⁴ It argues that it took reasonable steps to protect the secrecy of its strategies, including through its employee handbook and non-disclosure agreements with its employees and contractors.³⁵

The defendants counter that Elmagin has not established that Breck and Faber are protectable trade secrets.³⁶ They contend Elmagin has not shown that its trading strategies are a sufficiently unique combination of known elements to qualify for trade secret protection.³⁷ They claim that the strategies consist of elements that are commonly known among algorithmic traders, and a reasonably sophisticated trader could develop a similar strategy based on the known elements.³⁸

³⁴ Memo. in Supp. of Pl.'s Mot. for Summ. J. at 39-42; Pl.'s Resp. to Defs.' Mot. for Summ. J. at 29-32; Pl.'s Reply at 7 (ECF No. 85).

³⁵ Memo. in Supp. of Pl.'s Mot. for Summ. J. at 33-37.

³⁶ Memo. in Supp. of Defs.' Mot. for Summ. J. at 19-27; Defs.' Resp. at 35-38.

³⁷ Memo. in Supp. of Defs.' Mot. for Summ. J. at 25; Defs.' Resp. at 29; Defs.' Reply at 2.

³⁸ Memo. in Supp. of Defs.' Mot. for Summ. J. at 22-24; Defs.' Resp. at 35-37.

Both DTSA and PUTSA include a “compilation” of different pieces of information in their definitions of a trade secret. A combination of different elements may constitute a trade secret, even if each element is otherwise generally known or readily ascertainable, as long as the combination is unique and offers a competitive advantage. *Anaconda Co. v. Metric Tool & Die Co.*, 485 F. Supp. 410, 422 (E.D. Pa. 1980) (quoting *Imperial Chem. Indus., Ltd. v. Nat’l Distillers and Chem. Corp.*, 342 F.2d 737, 742 (2d Cir. 1965)) (“[A] trade secret can exist in a combination of characteristics and components, each of which, by itself, is in the public domain, but the unified process, design and operation of which, in unique combination, affords a competitive advantage and is a protectable secret.”); *SI Handling Sys., Inc. v. Heisley*, 753 F.2d 1244, 1255 (3d Cir. 1985) (quoting *Anaconda*, 485 F. Supp. at 422) (“A trade secret may be no more than a slight mechanical advance over common knowledge and practice in the art.”). Whether a particular piece of information or a combination of pieces of information constitutes a trade secret is generally a question of fact. *Bro-Tech Corp. v. Thermax, Inc.*, 651 F. Supp. 2d 378, 410 (E.D. Pa. 2009) (citations omitted); *Synogy*, 2015 WL 899408, at *9 (citations omitted). Thus, whether Elmagin’s strategies are unique combinations of elements is for the jury to determine.

We next turn to the defendants’ contention that the strategies are generally known or readily ascertainable to sophisticated algorithmic traders. Factors considered in determining whether a purported trade secret is “generally known” or “readily ascertainable” include the extent to which the information is known outside of the plaintiff’s business, the extent to which the information is known by employees and others involved in the plaintiff’s business, the amount of effort or money the plaintiff spent in developing

the information, and the ease or difficulty with which the information could be acquired or legitimately duplicated by others. *Bimbo Bakeries USA, Inc. v. Botticella*, 613 F.3d 102, 109 (3d Cir. 2010) (citations omitted). Confidential business information is not a trade secret if it can be “easily or readily obtained, without great difficulty, through some independent source other than the trade secret holder.” *Synthes, Inc. v. Emerge Med., Inc.*, 25 F. Supp. 3d 617, 706 (E.D. Pa. 2014) (quoting *BIEC Int’l, Inc. v. Glob. Steel Servs., Ltd.*, 791 F. Supp. 489, 545 (E.D. Pa. 1992)).

There are disputed facts regarding whether Elmagin’s strategies are or are not generally known or readily ascertainable. On one hand, Elmagin proffers expert opinions that Breck and Faber have not been publicly disclosed. The experts opine that even if some of the strategies’ individual elements may be known to traders in the industry, there are elements that are unique and the combination of these elements is not known.³⁹ Elmagin points to expert testimony that its trading strategies are not readily ascertainable because they cannot be reverse-engineered based on the data input to the trading strategies and the resulting bids.⁴⁰ On the other hand, the defendants have offered expert evidence that the strategies consist of common building blocks that any reasonably sophisticated trader could use to design such algorithms.⁴¹ These conflicting expert

³⁹ See Memo. in Supp. of Pl.’s Mot. for Summ. J. Exh. D at 50:21-52:24, 286:7-287:4.

⁴⁰ See *id.* at 208:22-210:6.

⁴¹ See Zarcu Exp. Rep. at ¶¶ 24, 25, 88, 155-174. For example, the defendants’ expert Cristian Zarcu testified that the strategies use “common finance techniques, such as moving averages, or techniques widely used by participants in electricity markets, such as shift factors . . . [which] would be known to reasonably sophisticated algorithmic trading practitioners.” *Id.* at ¶¶ 24-25. He also testified that the strategies’ components “are either common principles of portfolio selection and finance (e.g., reducing portfolio overlap), reflect the application of these common principles to the specific features of FTRs (e.g., use of Dayzer modeling), or both (e.g., use of historical moving averages to estimate prices).” *Id.* at ¶ 156.

opinions create a factual issue whether Elmagin's strategies are not generally known or readily ascertainable.

The defendants also argue that Elmagin has not proven its strategies derive independent economic value.⁴² There is evidence from which a jury could conclude that Elmagin's strategies derive independent economic value from being kept secret. The Gates brothers testified that the strategies generated millions in trading profits, and that if others used them, it would adversely affect Elmagin's profitability.⁴³ Elmagin generated \$3 million in revenue on an accrual basis in 2020 alone.⁴⁴ Matthew Yuros, Elmagin's current head of trading, testified that Elmagin derived "high economic value" from Breck and that its trading strategies were "highly profitable."⁴⁵ Chen himself admitted in his declaration that Breck was "making money."⁴⁶ Moreover, the defendants' argument that there is no evidence of the strategies' economic value is undercut by their contention regarding the value of Chen's 20% membership interest in Elmagin. Chen stated that he would have preferred to keep his ownership stake in Elmagin because doing so "would have led to significantly more compensation than was ultimately agreed to in the Membership Interest Agreement."⁴⁷ He insists that he did not receive the fair market value for his interest in Elmagin. He testified that "[b]ased on the returns from Elmagin's management of the funds, I believe that the value of my 20% ownership stake in Elmagin

⁴² Memo. in Supp. of Defs.' Mot. for Summ. J. at 26-27; Defs.' Resp. at 29-32, 37-38.

⁴³ K. Gates Dep. Tr. at 219:22-220:6; R. Gates Dep. Tr. at 116:12-117:19, 130:7-17.

⁴⁴ K. Gates Dep. Tr. at 121:23-122:5.

⁴⁵ Pl.'s Resp. Exh. PP at ¶¶ 1-3; Yuros Dep. Tr. at 98:13-22, 135:12-16.

⁴⁶ Chen Summ. J. Decl. at ¶ 17.

⁴⁷ Chen Resp. Decl. at ¶ 28.

was actually worth at least approximately \$3 million, and potentially significantly more.”⁴⁸ A reasonable jury could infer from this evidence that Elmagin derives independent economic value from the secrecy of its trading strategies.

Having concluded that fact issues exist regarding whether Elmagin’s trading strategies constitute protectable trade secrets under DTSA and PUTSA, we now consider whether the defendants misappropriated those strategies. Both DTSA and PUTSA define “misappropriation” as including “disclosure or use of a trade secret of another without express or implied consent.” 18 U.S.C. § 1839(5)(B); 12 Pa. C.S. § 5302. Whether misappropriation has occurred is a fact question.

Neither DTSA nor PUTSA define “use.” The Third Circuit has interpreted “use” to mean “any exploitation of the trade secret that is likely to result in injury to the trade secret owner or enrichment to the defendant[.]” *Oakwood*, 999 F.3d at 909 (quoting *Gen. Universal Sys., Inc. v. HAL, Inc.*, 500 F.3d 444, 451 (5th Cir. 2007)) (internal citations omitted). The defendant may misappropriate the plaintiff’s trade secrets without replicating the plaintiff’s product. *Id.* at 911. Replication is one, but not the only, way to use a trade secret. *Id.* “[E]mploying the trade secret in manufacturing or production . . . [or] relying on the trade secret to assist or accelerate research or development . . . all constitute ‘use.’” *Id.* at 909 (quoting *Gen. Universal Sys.*, 500 F.3d at 451). Therefore, using the elements or building blocks of a plaintiff’s trade secret to develop a competing product constitutes use in the misappropriation context.

Rarely can a plaintiff demonstrate misappropriation through direct evidence. Instead, a plaintiff may rely on circumstantial evidence, such as proof that the defendants

⁴⁸ *Id.* at ¶¶ 31, 32.

had access to its trade secret material and that there are similarities between its products and the defendants' products. See *id.* at 911 (quoting *Stratienko v. Cordis Corp.*, 429 F.3d 592, 600 (6th Cir. 2005)) (“[O]nce evidence of access and similarity is proffered, it is entirely reasonable for [the jury] to infer that [defendant] used [plaintiff’s] trade secret.”) (internal quotations omitted).

Elmagin claims the defendants have misappropriated its trading strategies by using them to develop their own strategies. Elmagin argues that we can infer that misappropriation occurred because Breck and Faber are substantially similar to Hydra and Gryphon in terms of their internal components and resulting bids.⁴⁹ Elmagin points to Chen and Petty having had access to its strategies and other confidential information when they worked at Elmagin.⁵⁰ The defendants respond that the strategies are not substantially similar in either the structure of the source codes or the output.⁵¹ Although they do not dispute that Chen had access to Breck during his tenure at Elmagin, they claim that Faber was not fully developed when he left and he had limited knowledge of how it worked.⁵² The defendants also argue that Petty did not have access to any of Elmagin’s strategies because he never completed any consulting work for Elmagin.⁵³

Elmagin has introduced evidence of similarities in the strategies’ structures and functions. It cites testimony and emails from Elmagin and Entergrid personnel discussing

⁴⁹ Memo. in Supp. of Pl.’s Mot. for Summ. J. at 43-57; Pl.’s Resp. at 19-20.

⁵⁰ Memo. in Supp. of Pl.’s Mot. for Summ. J. at 42-43.

⁵¹ Memo. in Supp. of Defs.’ Mot. for Summ. J. at 27-29; Defs.’ Resp. at 42-48.

⁵² Memo. in Supp. of Defs.’ Mot. for Summ. J. at 5-6; Defs.’ Resp. at 5, 39-40.

⁵³ Memo. in Supp. of Defs.’ Mot. for Summ. J. at 8, 17, 31-32; Defs.’ Resp. at 45, 55.

how the strategies were constructed and how they select bids based on certain parameters.⁵⁴ It has presented expert opinion that there are significant similarities in the strategies' component elements and the correlation between their bids and the reference prices produced by the strategies.⁵⁵ For example, Elmagin's expert Craig Pirrong opined that Breck/Hydra and Faber/Gryphon are "functionally identical" concerning the methods they use to formulate their bids.⁵⁶ To counter Elmagin's claimed similarities, the defendants have proffered evidence of differences in the strategies' underlying source codes, including expert testimony opining on those differences.⁵⁷ Defense expert Cristian Zarcu compared the parties' actual trades for January 2019 to December 2020 and claims he found only a minimal 1% to 6% overlap each month between the bids, suggesting the strategies are not the same.⁵⁸ A jury must consider the competing evidence, examine the strategies side-by-side, and determine if they are similar enough to infer the defendants used Elmagin's strategies in researching and developing their strategies.⁵⁹

⁵⁴ See Chen R. 30(b)(6) Dep. Tr. at 20:3-4, 20:13-22:9, 37:12-15, 41:5-45:9, 50:2-15, 75:1-7, 78:9-19, 117:21-118:3, 118:22-119:16, 126:12-129:6, 130:2-132:4; Chen Dep. Tr. at 103:14-16, 106:3-108:15, 150:1-10, 153:6-15, 155:22-156:12, 177:19-178:3; Memo. in Supp. of Pl.'s Mot. for Summ. J. Exhs. I, J, K, L, M, N, O, P, Q, R, S, X, Z, AA.

⁵⁵ Memo. in Supp. of Pl.'s Mot. for Summ. J. Exh. DX-15 at 9-16, 18-19.

⁵⁶ *Id.* at 17-19.

⁵⁷ Memo. in Supp. of Pl.'s Mot. for Summ. J. Exh. BB at 23-26.

⁵⁸ Zarcu Exp. Rep. at ¶¶ 175-76.

⁵⁹ Elmagin argues that the defendants' other strategies, such as Ziggi, Tuva, and Uma, also derive from the defendants' misappropriation because they evolved from Gryphon and Hydra. Memo. in Supp. of Pl.'s Mot. for Summ. J. at 57. Genuine issues of material fact exist as to the similarities between Hydra, Gryphon, and the other strategies. Though Elmagin does not provide a breakdown or side-by-side comparison of the other strategies' elements, it does point to testimony from Chen and the defendants' source code expert about the clear relationship between the strategies. Chen R. 30(b)(6) Dep. Tr. at 114:7-12, 120:11-14, 129:7-130:1; Memo. in Supp. of Pl.'s Mot. for Summ. J. Exh. F at 147:7-20. The defendants counter with evidence that there are significant differences between them. Zarcu Exp. Rep. at ¶¶ 130, 133, 135, 137-140. It is for the jury to determine whether any or all of the defendants' strategies resulted from misappropriation.

It is undisputed that Chen had access to Breck. He developed it.⁶⁰ Whether he had access to Faber is disputed. Elmagin has pointed to evidence that Chen had some role in developing Faber and that Faber was in use before he left Elmagin at the end of 2017.⁶¹ The defendants counter with evidence that Faber was still in its infancy at the time Chen left Elmagin and he had limited knowledge about it.⁶² The parties also dispute whether Petty had access to any of Elmagin's trading strategies. Elmagin has introduced evidence that Petty was granted access to their private computer network as part of his consulting services in 2016, suggesting he had access to all of its confidential information, including its trading strategies.⁶³ The defendants point to evidence suggesting that Petty did very little work for Elmagin.⁶⁴ Whether the defendants' had sufficient access to the strategies allowing them to misappropriate them is a jury question.

Elmagin also argues that the defendants misappropriated its trade secrets when they disclosed information containing or derived from its trade secrets to their employees and contractors, none of whom signed non-disclosure agreements with Elmagin or were otherwise authorized to receive Elmagin's confidential information.⁶⁵ The defendants counter that there is no evidence that they shared Elmagin's confidential information, such as its source codes or other documents discussing its strategies, with anyone.⁶⁶

⁶⁰ Chen Summ. J. Decl. at ¶¶ 5, 7; Chen Resp. Decl. at ¶ 8.

⁶¹ Chen Resp. Decl. at ¶ 10; Exh. PPP.

⁶² Chen Resp. Decl. at ¶¶ 11-14; Yuros Dep. Tr. at 114:20-115:4, 126:11-128:18.

⁶³ Petty Dep. Tr. at 121:8-122:8; Chen Dep. Tr. at 183:22-185:7, 186:6-187:2.

⁶⁴ Chen Dep. Tr. at 185:8-186:5; Declaration of Karl Petty in Supp. of Defs.' Resp. at ¶ 3 ("Petty Declaration").

⁶⁵ Memo. in Supp. of Pl.'s Mot. for Summ. J. at 58-60.

⁶⁶ Defs.' Resp. at 49.

According to the defendants, Elmagin has at most shown that the defendants disclosed Entergrid's strategies to others, but there is no evidence that Entergrid's strategies resulted from misappropriation.⁶⁷

The same fact issues preclude a finding of misappropriation through disclosure. There is no dispute that Chen disclosed Entergrid's strategies to Petty or that Chen and Petty disclosed Entergrid's strategies to Entergrid's other employees and contractors. Whether Chen and Petty disclosed strategies derivative of Elmagin's is for the jury to determine. If the jury finds that the defendants used Breck and Faber in developing Hydra and Gryphon, then their disclosure of Hydra and Gryphon to others constitutes misappropriation and a breach of the NDNC. If the jury finds that they did not use Breck and Faber to develop Hydra and Gryphon, there is no liability for the defendants' disclosure of Hydra and Gryphon to their employees and contractors.

In summary, fact issues exist as to whether Elmagin's trading strategies are trade secrets and whether the defendants misappropriated them through either use or disclosure. A jury must determine whether Elmagin's strategies are generally known or readily ascertainable, whether they derive independent economic value from being kept secret, whether the parties' strategies are substantially similar, and whether the defendants had access to Elmagin's strategies. Thus, we shall deny the cross-motions for summary judgment on the trade secret misappropriation claims.

Breach of Contract

Elmagin asserts claims against Chen and Petty for breach of contract based on the NDNC and Consulting Agreement. Elmagin argues that by misappropriating its trading

⁶⁷ *Id.* at 49-50.

strategies, Chen and Petty breached the non-disclosure/non-exploitation provision of the NDNC and Consulting Agreement, respectively.⁶⁸

The defendants counter that the non-disclosure/non-exploitation provisions of the NDNC and Consulting Agreement are overly broad because they define “confidential information” expansively to cover every aspect of Elmagin’s business, including matters that are only generally related.⁶⁹ The defendants further argue the provisions are unenforceable and against public policy because they restrict employees’ ability to use the broadly-defined confidential information for personal trading and asset management, with no time limit.⁷⁰ They claim these restrictions reveal that the provisions were not meant to protect Elmagin’s legitimate business interests against competitors.⁷¹ Lastly, the defendants contend that the NDNC and Consulting Agreement lacked proper consideration.⁷²

The NDNC provides the following definition of “Confidential Information”:

Confidential Information. Seller recognizes and acknowledges that during his time of being a member of Elmagin, Seller had access to, learned, was provided with and, in some cases, prepared, created or improved certain proprietary business information, trade secrets and confidential information of Elmagin, including, but not limited to, quantitative models and methods, business methods, trade secrets, confidential information, formulas, practices, ideas, inventions or research and development information, client and candidate information, client and candidate lists, and prospective client and candidate lists and information, notes, know-how, processes or techniques, trading methods, marketing and sales methods and strategies, identities or lists of Elmagin employees, contractors, agents,

⁶⁸ Memo. in Supp. of Pl.’s Mot. for Summ. J. at 66-67, 69.

⁶⁹ Memo. in Supp. of Defs.’ Mot. for Summ. J. at 32-34; Defs.’ Resp. at 50-52.

⁷⁰ Memo. in Supp. of Defs.’ Mot. for Summ. J. at 34-35; Defs.’ Resp. at 52-54.

⁷¹ Memo. in Supp. of Defs.’ Mot. for Summ. J. at 35.

⁷² Defs.’ Resp. at 54-55. Elmagin does not respond to these arguments.

representatives and investors, employment, payroll and compensation structure, forecasts, budgets, projections and other non-public financial information, information about the internal organization and business structure of Elmagin and the work assignments or capabilities of Elmagin employees, owners and officers, expansion plans, management policies and other business strategies and policies, software configurations, proprietary computer code and instructions, computer inputs and outputs (regardless of the media on which stored or located), and computer processing systems, software programs, web-based processes, techniques, designs, architecture and interfaces, and any other information which gives Elmagin a competitive advantage or the confidentiality of which provides independent economic value or, if divulged to a third party, would have an adverse impact on Elmagin, or on any third party to which Elmagin owes a confidential obligation, all of which are of substantial value to Elmagin (hereinafter referred to as “Confidential Information”).⁷³

The NDNC contains the following non-disclosure provision:

Non-Disclosure/Non-Exploitation. Seller agrees that he shall not, at any time, directly or indirectly, use, exploit, publish, disclose, reveal, provide, make known, or otherwise make available in any manner whatsoever to any person or entity, whether in oral, written, graphic, electronic or other form, any Confidential Information, except that which is public knowledge, of or relating to the business of Elmagin without the prior express written consent of Elmagin. Without limiting the foregoing, and by way of example only, this means that Seller may not use any Confidential Information for the purpose of trading or management of his or her own or any family member’s or friend’s assets, unless done with Elmagin’s express written permission. Seller understands and agrees that this NDNC Agreement applies to any Confidential Information acquired before, during or after the date of this Agreement. All obligations hereunder to maintain the confidentiality of Confidential Information shall survive and remain in full force and effect without regard to the reason for Seller’s separation from Elmagin. The parties acknowledge and agree that this NDNC Agreement is not intended to, and does not, alter either Elmagin’s rights or Seller’s obligations under any state or federal statutory or common law regarding trade secrets and unfair trade practices. Seller acknowledges that the restriction contained above shall be perpetual in nature.⁷⁴

⁷³ NDNC at ¶ 2(a). The Consulting Agreement contains almost identical language. Consulting Agreement at ¶ 5(a).

⁷⁴ NDNC at ¶ 2(b). The Consulting Agreement contains almost identical language. Consulting Agreement at ¶ 5(b).

In Pennsylvania, post-employment restrictive covenants, including non-disclosure provisions, are generally disfavored. *Rullex Co., LLC v. Tel-Stream, Inc.*, 232 A.3d 620, 624 (Pa. 2020). Courts will enforce them only where “they are incident to an employment relationship between the parties; the restrictions imposed by the covenant are reasonably necessary for the protection of the employer; and the restrictions imposed are reasonably limited in duration and geographic extent.” *Hess v. Gebhard & Co. Inc.*, 808 A.2d 912, 917 (Pa. 2002).

The non-disclosure provisions are indisputably incidental to the employment relationship between the parties, and they serve Elmagin’s legitimate interest in protecting its trade secrets and other confidential information from disclosure. Though there are no limitations on their duration and geographic reach, they do not present an unreasonable restraint preventing former employees from earning a living. *Id.* They merely restrict former employees from using or divulging Elmagin’s confidential information. They do not prohibit them from working for a competitor or otherwise finding new employment. Moreover, the contracts’ broad definition of “Confidential Information” and restriction on activities such as personal trading do not render the entire non-disclosure provision unenforceable. The Pennsylvania Supreme Court has frequently held that enforcement of restrictive covenants may be limited to the portions reasonably necessary to protect the employer. *Id.* at 920 (citations omitted). Thus, these covenants are enforceable to the extent they protect Elmagin’s trading strategies and any other confidential information related to the strategies.

Whether Chen and Petty breached the non-disclosure provisions of their contracts with Elmagin requires resolving the same fact issues that preclude summary judgment on

Elmagin's claims of misappropriation based on disclosure. If the jury finds that the defendants misappropriated Elmagin's trading strategies in developing their own strategies, the disclosure of their own derivative strategies to others constitutes breach of the non-disclosure provisions. Thus, we shall deny the motions for summary judgment on the breach of contract claims.⁷⁵

Conclusion

There are genuine issues of material fact bearing on whether Elmagin's trading strategies are protectable trade secrets and whether the defendants' used or otherwise disclosed Elmagin's trading strategies when developing their own algorithms. Thus, we shall deny both parties' motions for summary judgment.

⁷⁵ Similarly, issues of fact preclude finding that the contracts lacked proper consideration. The MIA provides that Chen would receive a closing payment and trailing payments for three years following his departure, in exchange for his shares of Elmagin and for signing the NDNC. MIA at ¶ 3; NDNC at ¶ B; Chen Resp. Decl. at ¶ 27. Petty's Consulting Agreement provides for an hourly consulting fee. Consulting Agreement at ¶ 4. However, the defendants point to evidence that Chen has only received \$15,000 for his shares of Elmagin to date and that the fair market value for his shares is closer to \$3 million. Chen Resp. Decl. at ¶¶ 29-32. The defendants have introduced evidence that Petty did not submit any invoices to Elmagin for his work, nor did Elmagin pay him. Petty Decl. at ¶ 3; Chen Summ. J. Decl. at ¶ 23. Therefore, whether the contracts were supported by adequate consideration is for the jury to determine.